

Americans Recommend Smaller Ecological Footprints When Reminded of Intrinsic American Values of Self-Expression, Family, and Generosity

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Abstract

Extrinsic values for money, image, and status are known to be associated with less sustainable ecological attitudes and to be relatively high among American citizens. But America also has a long history of prioritizing the intrinsic values of self-expression, family, and helping the world to be a better place, aims which past studies show promote more sustainable environmental behaviors. We therefore tested whether activating these types of American identities, compared to various control conditions, would affect U.S. college students' policy recommendations about the size of Ecological Footprints (EFs) Americans should have. Results showed that participants primed with an intrinsic American identity recommended significantly lower EFs than did participants primed with an extrinsic American identity, an unqualified American identity, or two control identities (i.e., human and University of Missouri student). Results were stronger for the housing and travel components of the EF than for the food component. Findings suggest that communicators and educators might do well to attempt to activate the aspects of the American national character connected with intrinsic values in their attempts to promote acceptance of policies that support environmental sustainability.

One primary cause of ecological damage is the high-consumption lifestyle to which citizens of the economically developed world have grown accustomed. As a result, to achieve ecological sustainability, most environmental scientists agree that people in wealthy nations will need to reduce their "ecological footprint" (EF), or "the amount of land and ocean area required to sustain a person's consumption patterns and absorb his/her wastes on an annual basis" (www.myfootprint.org/).

While many nations have unsustainable EFs, the United States scores consistently high on this indicator. To take just one example, with 5% of the world's population, Americans consume 24% of the world's energy, with each American consuming as much as 2 Japanese, 6 Mexicans, 13 Chinese, 128 Bangladeshis, or 370 Ethiopians (www.mindfully.org/Sustainability/Americans-Consume-24percent.htm). Such data have, however, done little to provoke the U.S. government to promote better ecological policies, other than encouraging consumers to make somewhat greener purchases. Stronger environmental policy options, such as the bill that recently failed in the U.S. Senate, languish in part because environmental sustainability typically rates relatively low on most Americans' list of priorities (Newport, 2009).

One explanation for both Americans' high levels of consumption and their seeming reticence to support strong environmental policy-making concerns the values central to their identities (Crompton & Kasser, 2009). The United States has of course been long known as the land of financial opportunity, a place where people can go from rags to riches, from anonymity to stardom (Weiss, 1969). These ideals are embodied in "extrinsic" aspirations (Kasser & Ryan, 1996) that

prioritize money, power, image, and status (see Kasser *et al.*, 2007). As it turns out, these are also the very goals and aspects of identity that research shows are associated with worse environmental attitudes and behaviors. For example, studies document that a strong priority placed on money, power, and status is associated with caring less about the environment, engaging in fewer environmentally beneficial behaviors, and having higher EFs (Brown & Kasser, 2005; Gatersleben *et al.*, 2008; Good, 2007). Resource dilemma games also demonstrate that, in their desire for greater profit, people with stronger extrinsic values consume limited ecological resources at unsustainable rates (Sheldon *et al.*, 2000). Nations like the United States whose citizens strongly focus on values such as power and money have higher carbon emissions, even after controlling for gross national product (Kasser, 2011).

Thus, it may be that the relatively strong place that money, possessions, status, and image have in many Americans' identities is partially responsible both for their high EFs and for their reticence to support national policies that could promote greater sustainability. Fortunately, while these materialistic, extrinsic values may be prominent in American identity, this does not mean that the American identity is defined solely by these attributes. Certainly there are other, less extrinsic aspects of being an American that, while sometimes suppressed or ignored, are nonetheless accessible because they are ultimately grounded in Americans' shared history (Curl, 2009; Green, 2000). The premise of the current study is that if these alternative aspects of American identity can be activated and encouraged, Americans might be more supportive of positive ecological measures. Indeed, the literature on Social Identity Theory (SIT) and values suggests that this may be the case.

Activating an American Identity Based in Intrinsic Values

The possibility that other, more environmentally beneficial aspects of American identity are present in Americans seems quite consistent with the tenets of SIT (Tajfel, 1981; Tajfel & Turner, 1986), which suggest that people have a multiplicity of social identities corresponding to the different groups and organizations to which they belong. People's identities are understood to be complex and rich, containing much information and multiple scripts and schemas about the behaviors that group members engage in and the values group members hold (Bettencourt & Hume, 1999; Tajfel, 1981). SIT further holds that these multiple aspects of people's social identities vary in their salience and accessibility (Deaux, 1993; Tajfel & Turner, 1986; Turner *et al.*, 1987) and that, to the extent a particular social identity becomes salient, behavior and attitudes consistent with that identity will be more likely to be expressed (Hogg & Abrams, 1990).

Salience is of course partially determined by chronic dispositions, but the social context is also a key determinant of which social identities are activated at a particular moment, how those identities are cognitively represented, and how they influence behavior (Hogg, 2010; Turner *et al.*, 1994). Thus, SIT would seemingly propose that even if extrinsic values and goals are prominent in Americans' identities, other aspects of being an American may also be accessible in people's identities, and if these could be activated by the social context, more positive ecological attitudes and behaviors may result.

A similar conclusion can be reached on the basis of recent research on values and goals. This body of literature, validated in dozens of nations, suggests that there are around a dozen basic types of motivations that organize people's value and goal systems (Grouzet *et al.*, 2005; Schwartz, 1992); these include extrinsic aims for money, status, and image, as well as other aims such as spirituality, helping other people, hedonism, etc. These models assume that while individuals certainly vary in their disposition to prioritize one or another type of value, each of the basic motivations is present in all people. Further, researchers have shown that when certain motivations are activated or primed, this causes people to engage in behaviors that are relatively consistent with that aim, and with closely related aims (Maio *et al.*, 2009; Vansteenkiste *et al.*, 2004).

In sum, both SIT and the values/goals literature suggest that if other aspects of the American identity than the prominent focus on money and status can be made salient, Americans might be more supportive of positive ecological policies. What might those alternative identities be? The literature on values and goals points to intrinsic aims such as helping other people, having close relationships, and growing as a person (Grouzet *et al.*, 2005; Kasser & Ryan, 1996). There are at least three reasons to believe such aims in life are particularly promising.

First, studies show that when people prioritize intrinsic values, they are more likely to hold positive ecological attitudes and to engage in more sustainable environmentally relevant behaviors (Brown & Kasser, 2005; Sheldon *et al.*, 2000). Schultz *et al.* (2005), drawing on the research of Schwartz's (1992) values model, have shown that people think and behave more pro-environmentally when they prioritize the self-transcendence values of benevolence and universalism (which share much conceptual overlap with the intrinsic goals of having close relationships and helping other people).

Second, cross-cultural research on values and goals suggests that intrinsic aims stand in opposition to extrinsic aims (Grouzet *et al.*, 2005). That is, it is relatively difficult for people to prioritize aims such as money, power, image, and status at the same time as aims such as helping other people, having close interpersonal relation-

ships, and developing as a person. Indeed, research shows that priming one set of values (e.g., money) tends to suppress other, opposing values (e.g., pro-social behavior; Maio et al., 2009; Vohs et al., 2006), and vice versa. These data suggest that if intrinsic values are activated in people's minds, the extrinsic values associated with damaging ecological outcomes should become relatively suppressed.

Third, American history certainly contains many examples of identities that embody intrinsic values. These include more communal and self-restrained aspects to American character, rooted in the Protestant virtues of early colonists (Middlekauff, 1971; Miller, 1961); the yeoman "agrarian virtues" promoted by Thomas Jefferson (Yarbrough, 1998); the "practical" virtues advocated by the self-made urbanite, Benjamin Franklin (Franklin, 2001; Isaacson, 2003); the desire for simplicity and thrift embodied over and over in American history (Shi, 1985); the desire for freedom and equality expressed by multiple progressive movements (Zinn, 2003); and the remarkable generosity the nation has often shown toward the rest of the world (e.g., during and immediately after World War II, the Peace Corps, etc.).

The current study

In the current between-subjects experiment, we endeavored to remind U.S. participants of either the extrinsic side of American character or the intrinsic side of American character, before asking them to rate their policy preferences relevant to Americans' EFs. As one control condition, we also primed an "unqualified" American identity independently of the extrinsic/intrinsic distinction, to explore whether just raising the idea of one's American identity produced effects more similar to extrinsic than intrinsic American priming, as we would expect if an extrinsic American identity is more chronically salient for participants. As two further control conditions we primed some participants' identities as students at their university (i.e., a salient daily baseline social identity), and other participants' identities as human beings (i.e., an abstract baseline identity uncontaminated by national divisions).

Our primary hypothesis was that priming an intrinsic American identity would produce recommendations for more sustainable EFs compared to the other priming conditions. We also explored whether these hypothesized effects were present for all facets of the EF (i.e., travel, food, and housing) and whether the "unqualified" American identity was more similar to the intrinsic or extrinsic American identity.

Method

Participants and procedure

Participants were 322 students (112 men and 210 women) at the University of Missouri who participated to help satisfy a course re-

search requirement. After signing up for the study, they were randomly assigned to be sent one of five links to an on-line survey. Each of the links contained many of the same measures, only some of which were relevant to the present study, as well as a series of questions designed to prime one of five different identities.

Identity priming manipulation

Participants were randomly assigned to one of five priming conditions: American ($N=76$), intrinsic American ($N=39$), extrinsic American ($N=41$), Missouri student ($N=83$), or all humans ($N=83$). The number of participants for the intrinsic and extrinsic American priming conditions are lower than the three other conditions because participants were run in these two conditions only in the second of the two semesters during which data collection took place. We compared means for these three other conditions across the fall and spring on the four outcome variables, finding no mean differences by semester. The fact that time of administration did not affect results for the three conditions that were administered in both semesters suggests that the data from the intrinsic and extrinsic conditions were probably not biased by time of collection either. Participants in the American condition read, "Now, we would like to know more about you as an American"; those in the student condition read, "Now, we would like to know more about you as a Missouri Student"; those in the human being condition read, "Now, we would like to know more about you as a Human Being"; those in the intrinsic American condition read:

"Now we would like to know more about you as an American. The American people are known around the world for their generosity, and their willingness to pull together in times of need. Americans are also known for their ideal of self-expression and personal development, and for their strong family values";

and those in the extrinsic American condition read:

"Now we would like to know more about you as an American. The American people are known around the world for their focus on wealth, financial success, and material gain. Americans are also known for their competitiveness, and for their movie industry with its Hollywood ideals of beauty, celebrity, and fame."

Next, participants were asked, depending on their priming condition, to "list three characteristics that all (Americans; Missouri students; or Humans) share in common. In what ways are all members of this group alike?"; participants primed with intrinsic or extrinsic American identities answered for the "American" stem. Second, participants were asked to "list three characteristics that differentiate (Americans from people who live in other nations; University of Missouri students from students who go to other universities; or Human beings from animals)." Finally, participants were

asked to “list three needs that all (Americans; Missouri students; or Humans), including you, share in common. In what ways do all members of this group need the same things, in order to thrive and be happy?” These three sets of questions were designed to further activate the aspect of identity that had just been primed. After completing these questions, participants completed a variety of other surveys, including the outcome variable of interest in this study, described next.

EF measure

Later in the survey, participants read the following statement:

Much has been written lately about various kinds of ecological problems that those living on Earth may face in the coming years. Some have argued that there is no problem, or that the problems are not due to human activities, or that if they are due to human activities, that’s OK because we humans face more important problems than ecological sustainability. Others argue that there are definite ecological problems, and that they are due to human activity, and that solving these problems is of primary importance.

Researchers who believe that human activity is partially responsible for Earth’s ecological problems have found that the behaviors and lifestyle choices listed below have a particularly important influence on the environment. These researchers believe that materialistic consumption and lifestyle choices cause particular problems. In this case, peoples’ “ecological footprint” may be too large for a sustainable planetary ecology.

As can be seen, we endeavored to provide information that might lead participants to see reducing Americans’ EFs as a good idea, but balanced it with an opposing view as well. We then assessed participants’ recommendations about Americans’ EFs by having them:

Imagine that the U.S. government has put you in charge of setting goals for each of these behaviors and lifestyle choices, and has asked you to recommend where the majority of Americans would ideally stand on each of these behaviors and lifestyle choices. For each of the following, where would you recommend the average American be 5 years from now?

At this point, participants completed an 11-item EF measure based on a quiz posted in early 2008 on the Web site for the Center for Sustainable Economy (www.sustainable-economy.org/). The items concerned travel footprint (i.e., use of public vs. private transportation; amount of air travel; seven items), housing footprint (i.e., size

and type of housing; two items), and food footprint (i.e., frequency of eating animal vs. vegetable-based products; distance of food transport; two items). Example items include: “What would be the average size home of an American family of four?” with options ranging from 500 square feet or smaller to 2500 square feet or larger; “On average, how far would Americans go by car each week (as a driver or passenger)?” with options ranging from 0 miles to 400 miles or more; and “How much of the food that the average American eats would be processed, packaged, and not locally grown (from more than 200 miles away)?” with options ranging from “Very little—most of the food Americans eat should be unprocessed, unpackaged and locally grown” to “one-quarter” to “half” to “three-quarters” to “Most of the food people eat should be processed, packaged, and from far away.” Items had anywhere between three and six response options from which a participant could choose.

An aggregate recommended American EF measure was computed by first z-scoring the 11 response variables to put all distributions on the same scale. Then, the six variables for which larger response choices indicated a larger EF were averaged, as were the five variables for which larger response choices indicated a smaller EF. The latter EF mean was then subtracted from the former EF mean, yielding a measure of total recommended EF. Coefficient alpha for the 11-item EF measure (after recoding) was .66; lower scores indicate lower recommended EFs (i.e., more sustainable recommendations). We also computed recommended EFs for food, transportation, and housing EFs separately to investigate whether activating different aspects of identity differentially affected recommendations for these more specific aspects of EF.

Results

We tested our hypotheses by conducting an analysis of variance that compared the recommended aggregate EF scores participants proposed in each of the five priming conditions. A significant omnibus effect was detected ($F_{(4,317)} = 3.79, p = 0.005$); Table 1 presents the mean recommended EFs for each of the five conditions.

A series of pair-wise contrasts followed up on the omnibus difference across groups. Of primary interest, subjects primed with an intrinsic American identity recommended significantly lower EFs than did those in the four other conditions (for extrinsic American, $t_{(78)} = 2.22, p < 0.05$; for unqualified American, $t_{(113)} = 3.86, p < 0.01$; for Missouri student, $t_{(120)} = 2.15, p < 0.05$; for human being, $t_{(120)} = 2.48, p < 0.01$). Thus, as predicted, when participants were reminded of the aspects of American identity consistent with intrinsic values, they were likely to recommend more sustainable EFs for the average American.

Table 1. Means and Standard Deviations for Recommended American Total, Food, Housing, and Travel Ecological Footprints, Split by Priming Condition

	TOTAL EF		FOOD EF		HOUSING EF		TRAVEL EF	
	M	SD	M	SD	M	SD	M	SD
American	0.25 ^a	0.94	0.26 ^a	1.51	0.05 ^a	0.67	0.24 ^a	0.95
Extrinsic American	−0.01 ^{ab}	0.94	0.05 ^a	1.78	−0.07 ^a	0.66	0.08 ^{ab}	0.93
Intrinsic American	−0.45 ^c	0.90	−0.34 ^a	2.01	−0.37 ^b	0.72	−0.35 ^c	0.83
Missouri Student	−0.08 ^b	0.90	−0.14 ^a	1.42	0.02 ^a	0.75	−0.08 ^{bc}	0.95
Human	0.00 ^{ab}	0.90	−0.04 ^a	1.51	0.04 ^a	0.67	0.00 ^{abc}	1.10

Means not sharing superscript letters in a column differ from each other at $p < 0.05$ or more.

EF, Ecological Footprint; M, mean; SD, standard deviation.

Further analyses showed that participants primed with the unqualified American identity recommended equivalent EFs to those primed with the extrinsic American identity ($t_{(115)} = 1.35$, ns). Thus, it appears that when subjects were asked to think about being an American, the identity that was activated contained values more similar to extrinsic than intrinsic concerns, given that subjects in the unqualified American condition recommended EFs more similar to those proposed by groups primed with the extrinsic aspects of American identity than to groups primed with the intrinsic aspects of American identity.

It is also interesting, and somewhat disturbing, to note that participants recommended significantly higher EFs when they were primed with the unqualified American identity than when they were primed with the Missouri student identity ($t_{(157)} = 2.24$, $p < 0.05$). Thus, activating one's unqualified American identity appears worse for ecological outcomes than activation of the student identity that is probably chronically salient for most of our subjects.

Although we had not made any specific predictions about how priming might affect the three subcomponents of the EF, we examined whether they varied as a function of the priming conditions. Analysis of variances revealed significant omnibus effects for housing ($F_{(4,317)} = 2.91$, $p = 0.022$) and travel ($F_{(4,317)} = 2.63$, $p = 0.031$) but not food ($F_{(4,317)} = 1.10$, ns ; Table 1). Follow-up tests on the housing and travel footprint variables showed that priming an intrinsic American identity produced significantly lower travel footprints compared to an unqualified American identity ($t_{(113)} = 3.29$, $p < 0.01$) and an extrinsic American identity ($t_{(78)} = 2.10$, $p < 0.05$); also, priming an unqualified American identity produced significantly higher travel footprints compared to a student identity

($t_{(157)} = 2.10$, $p < 0.05$). Further, priming an intrinsic American identity produced significantly lower housing footprints compared to an extrinsic American identity ($t_{(78)} = 1.96$, $p = 0.05$), an unqualified American identity ($t_{(113)} = 3.86$, $p < 0.01$), a student identity ($t_{(120)} = 2.73$, $p < 0.01$), and a human identity ($t_{(120)} = 3.06$, $p < 0.01$).

Discussion

Because past research has shown that intrinsic values (for helping others, close interpersonal relationships, and growing as a person) tend to be associated with more sustainable ecological attitudes and behaviors (see Crompton & Kasser, 2009 for a review), we reasoned that activating intrinsic aspects of the American character would lead participants to recommend that Americans live in more sustainable ways. Indeed, compared to subjects primed with four other common social identities, those primed with an intrinsic American identity recommended more sustainable behaviors for the average American; this, in turn, yielded a significantly lower overall recommended national EF. It is important to note that the intrinsic American priming condition did not mention the environment in any way—rather, it focused on Americans' generosity, willingness to pull together, emphasis on personal development, and strong family values. It thus appears that activating intrinsic values and features of identity caused a parallel increase in the psychologically compatible concern for environmental sustainability and a decrease in subjects' support for behaviors reflective of high levels of consumption, that is, for behaviors relevant to extrinsic values. Such an interpretation of the findings is consistent with what is known about the ways in which human values are organized and dynamically interact (e.g., Grouzet *et al.*, 2005; Maio *et al.*, 2009; Schwartz, 1992).

Additional analyses revealed that the recommended EFs of those primed with an “unqualified” American identity were statistically indistinguishable from those primed with the extrinsic features of an American identity (i.e., a focus on money, image, and status) and were significantly higher than those primed with the Missouri student identity. These results suggest that when asked to think about a “typical” American identity, subjects likely considered more extrinsic than intrinsic features, which in turn led them to recommend less sustainable behaviors and more consumption-oriented actions. Further, the results suggest that when our student participants were asked to move beyond their dominant daily identity (as a student) and think about their identity as Americans, this may have led them to become more consumption-focused and less inclined towards sustainability. Such a dynamic would be consistent with the kinds of social identities they have been encouraged to adopt under American Corporate Capitalism (Kasser *et al.*, 2007).

Limitations and Future Research

One obvious issue for future study concerns whether the same effects would be found among a sample more diverse in age and background. Identity continues to develop over the lifespan (Kroger, 2007), and the young adults in our sample may view themselves in a systematically different manner than do older adults. Additionally, individuals with postsecondary education tend to be more pro-environmental in their attitudes compared to those with less education (Van Liere & Dunlap, 1980; Weakliem, 2002), pointing to a potential limitation of this study’s college student sample. That said, there seems little reason, *a priori*, to expect that a more diverse sample of respondents would possess less of an “intrinsic American” element to their identity or that the process of priming such an identity element would operate any differently among them.

Another, more complicated and more theoretical issue concerning these data is whether the intrinsic American prime actually activated a pre-existing social identity (i.e., primed an aspect of identity) or whether it primed intrinsic-type concepts (i.e., primed a semantic network). To illustrate the distinction, consider that Bargh *et al.* (1996) found that student participants primed with words relevant to stereotypes about elderly people via a scrambled sentence rewriting task walked slower as they left the laboratory, compared to participants in a control condition. It of course is unlikely that Bargh *et al.*’s (1996) task primed a pre-existing social identity of “me as an elderly person” within students. Instead, it seems more likely that the task simply primed the concept of “elderly,” which sufficed to produce effects upon behavior. Similarly, our study may simply have primed the concept of “intrinsic values,” rather than having actually activated a pre-existing

intrinsic American identity. Further research that compares primes of intrinsic values with and without an American identity may be useful.

A third issue worth considering in further detail concerns the causal flow of the psychological processes described here. While the current data clearly suggest that the activation of intrinsic values and identities can cause individuals to care more about environmental sustainability, data also exist that support the opposite causal arrow. Specifically, across four studies Weinstein *et al.* (2009) found that participants who were exposed to slides of nature (vs. human-made scenes) or who completed procedures in a laboratory room containing four plants (vs. no plants) increased the importance they placed on intrinsic values and decreased the importance they placed on extrinsic values. While the variables operationalizing nature are admittedly not exactly the same across our study and those conducted by Weinstein *et al.*, they are conceptually similar enough that one might wonder whether there are bi-directional effects between environmental and intrinsic concerns, whether two completely separate processes explain these different findings, and/or whether in both studies a semantic network of ideas that includes both intrinsic values and environmental concerns was primed. Further research is clearly needed to sort these possibilities.

Conclusion

Regardless of the mechanisms at work, the pattern of results reported here has potentially important implications for how educators, environmentalists, policy-makers, and politicians might best speak with Americans about environmental issues. Crompton & Kasser (2009) recently suggested that many of the standard environmentalist approaches that rely on appeals to financial savings, status and image, financial profit, and economic growth have an inherent danger in them, as they activate and encourage the extrinsic aims known to be negatively associated with pro-environmental attitudes and behaviors. The current data are consistent with this critique, as appeals to extrinsic values (or even to the national identity of being an American) appear to do little to nothing toward increasing people’s recommendations for sustainability.

Crompton and Kasser (2009) instead recommended that those concerned with meeting environmental challenges work to activate and encourage the intrinsic values known to be positively associated with pro-environmental attitudes and behaviors. The current results are indeed consistent with the idea that a more promising approach may be to connect people’s sense of self and nationality to the intrinsic values of community contribution, close relationships, and personal growth. As such, it seems wise to rethink many aspects of current environmental education, communication, campaigning,

and policy so that instead of focusing on appeals to money, economic growth, and the like, intrinsic values are activated and encouraged. So, for example, when teaching students about environmental problems, curricula should probably avoid focusing on how particular solutions might save money (extrinsic values), and instead connect these solutions with how they will benefit the community (intrinsic values; see, e.g., Vansteenkiste *et al.*, 2004). Similarly, as environmental campaigners and politicians reach out to citizens, these data suggest that it is better to focus on how sustainability policies might help benefit one's family and future generations rather than how they will help the economy grow.

Finally, we would note three last reasons that make us hopeful that activating and encouraging intrinsic values will be a useful strategy for those concerned about the environment. First, research shows that most people claim that intrinsic values are more important to them than are extrinsic values (Kasser, 2002a); thus, it seems likely that intrinsically based communications may be fundamentally more appealing to many people than are extrinsically based communications. Second, intrinsic values tend to be associated with higher levels of well-being than are extrinsic values (Kasser, 2002b); thus, intrinsically based communications have the potential to build up people's happiness and life satisfaction, which may counter the common belief that ecological sustainability requires sacrifice. Finally, intrinsic values seem to have a resonance that transcends political parties and preferences (Sheldon & Nichols, 2009); thus, intrinsically based communications may be a "big-tent" issue that can appeal to individuals of various political persuasions.

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